

Section II (Remarks)

Amendment of Claim 70

In response to the objection to claims 33-36, 44, 47, 51, 71 and 73-76, claim 70 has been amended herein to recite “at least one LED/phosphor assembly” in place of “an LED/phosphor assembly.” Claim 70 correspondingly now recites:

“70. A liquid crystal display comprising a back light structure including at least one LED/phosphor assembly in which the LED is energizable to emit radiation and the phosphor is arranged to be impinged by radiation from the LED so that the LED/phosphor assembly produces white light back light illumination for the liquid crystal display.”

(added text underlined)

Such amendment is for example supported by the disclosure at page 22, lines 9-12 of the specification (“white light emitting diode device assemblies ... arranged in an array comprising a regular pattern of such assemblies...for a back light illumination panel for a structure such as a liquid crystal display”). Accordingly, no new matter within the meaning of 35 USC §132 has been introduced

Rejection of Claims on Reference Grounds

In the March 2, 2009 Office Action, claims 31, 33-36, 44, 47, 48, 51, 52, 70, 71 and 73-76 have been rejected on reference grounds, including:

- a rejection of claims 31, 33-36, 44, 47, 48, 52 and 70 under 35 USC 102(b) as being anticipated by Shimizu JP 08007614 A (“Shimizu”); and
- a rejection of claims 51, 71 and 73-76 under 35 USC 103(a) as being unpatentable over Shimizu in view of Stevenson et al. U.S. Patent 3,819,974 (“Stevenson”).

Such rejections are traversed.

Rejection of Claims 31, 33-36, 44, 47, 48, 52 and 70 under 35 USC 102(b) Based on Shimizu

It is noted that Shimizu was previously made of record in a Supplemental Information Disclosure Statement filed January 11, 2005 in this application, and that such reference was previously considered by prior examiner Thao Le on January 26, 2005. Enclosed in Appendix A of this Response is a copy of such Supplemental Information Disclosure Statement page as initialed by examiner Thao Le, bearing his signature and date of 01/26/05, as downloaded by the undersigned attorney on April 15, 2009 from USPTO PAIR records of the present application.

Shimizu was published by the Japanese Patent Office on January 12, 1996 as Japanese Patent Application Publication No. H08-7614.

Applicants' present application was filed on July 18, 2003 as a continuation of U.S. Patent Application No. 08/621,837 filed on March 26, 1996, from which U.S. Patent 6,600,175 issued on July 29, 2003. The present application therefore has an effective filing date of March 26, 1996.

Since the publication date of Shimizu, January 12, 1996, is two and one-half months prior to applicants' effective filing date of March 26, 1996, Shimizu is not a competent reference under 35 USC §102(b)¹. The rejection of applicants' claims 31, 33-36, 44, 47, 48, 52 and 70 under 35 USC 102(b), as being anticipated by Shimizu, is therefore improper. Withdrawal of such rejection is requested.

Further, Shimizu is not a competent reference under any other provision of 35 USC 102, since applicants made the presently claimed invention well prior to the January 12, 1996 publication date of Shimizu. In support of such assertion, enclosed and submitted herewith under the provisions of 37 CFR §1.131 is the Declaration of the inventors Bruce Baretz and Michael A. Tischler, setting forth facts showing their making of the claimed invention before the January 26, 1996 effective date of the Shimizu reference.

Based on the Baretz/Tischler 131 Declaration disqualifying Shimizu as prior art under 35 USC §102, it is requested that the anticipation rejection of claims 31, 33-36, 44, 47, 48, 52 and 70 based on Shimizu be withdrawn.

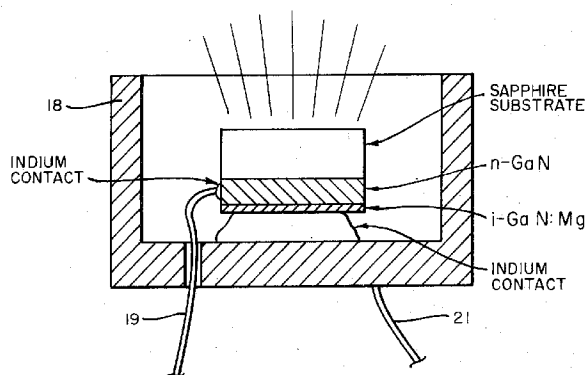
Rejection of Claims 51, 71 and 73-76 Under 35 USC 103(a) Over Shimizu in View of Stevenson

As discussed in the preceding sub-section of these Remarks, Shimizu is disqualified as prior art by the Baretz/Tischler 131 Declaration.

Accordingly, the rejection of claims 51, 71 and 73-76 is based only on the remaining Stevenson reference.

Stevenson previously was applied as a primary reference against claim 51 and as a secondary reference against claims 70 and 71, in rejections earlier overcome by applicants (see October 20, 2008 Office Action and applicants' response filed December 18, 2008 to such Office Action).

As previously established, **Stevenson** discloses a gallium nitride LED producing violet light (column 1, lines 10-12 of Stevenson) that is emitted through a transparent substrate (sapphire), as shown in the single figure of such reference:



¹ 35 U.S.C. 102 Conditions for patentability; novelty and loss of right to patent. A person shall be entitled to a patent unless ... (b) the invention was patented or described in a printed publication in this or a foreign country ... more than one year prior to the date of the application for patent in the United States."

Stevenson in columns 3-4 discloses that:

“... there has been provided an improved light emitting diode capable of emitting light in the violet region of the spectrum. This device may be used as a source of violet light for applications where this spectral range is appropriate. This light may be converted to lower frequencies (lower energy) with good conversion efficiency using organic and inorganic phosphors. Such a conversion is appropriate to develop different colors for aesthetic purposes, but also to produce light in a spectral range of greater sensitivity for the human eye. By use of different phosphors, **all the primary colors may be developed** from this same basic device. An **array of such devices may be used for color display systems**; for example, a solid state TV screen.”

Stevenson thereby teaches primary color generation by an LED/phosphor device, with an array of primary color devices being used for color display systems such as solid state TV screens.

In other words, Stevenson contemplates using a first LED/phosphor device for generating primary color red light, a second LED/phosphor device for generating primary color green light, and a third LED/phosphor device for generating primary color blue light, thereby generating all the primary colors (red, green and blue), and placing such primary color devices in RGB arrays for applications such as solid state TV screens.

These teachings of Stevenson to use an LED/phosphor device to generate a primary color, and to employ an array of such primary color-generating LED/phosphor devices for color displays, are consistent with the conventional approach in the display field at the time the invention was made, to use an LED emitting red color light, an LED emitting green color light and an LED emitting blue color light, to provide a red LED/green LED/blue LED assembly, as a so-called RGB (red-green-blue) array.² Stevenson is concerned with primary color generation for displays, and does not contain any disclosure relating to back lighting.

² see, for example, the discussion at page 4, line 21 to page 5, line 2 of the present application, and Stinson U.S. Pat. No. 4,992,704 described therein.

In the rejection of claims 71 and 73, Stevenson is cited for disclosure of an LED/phosphor assembly wherein a regular pattern array of the LED/phosphor assembly may be used for color display systems (Office Action, p. 5). On such basis, it is hypothesized to be obvious to combine Stevenson and Shimizu “to form a plurality of the LED/phosphor assembly [sic] in a regular pattern array, to produce white light illumination, for color display systems such as TV screens.”

As pointed out above, Stevenson is concerned with primary color generation for displays, and does not contain any disclosure relating to back lighting. With Shimizu disqualified as prior art (see preceding discussion), there is no disclosure of back lighting on which to base the rejection of claims 71 and 73. The rejection of claims 71 and 73 therefore is requested to be withdrawn.

Concerning the rejection of claims 74-76, the limitations of such claims are characterized in the Office Action as “functional limitations” that “would have been considered obvious to one of ordinary skill in the art, at the time of the invention, because such device functions are well known and conventional in the art.”

In response, the following provisions of MPEP 2144.03 are to be noted:

- “It is never appropriate to rely solely on ‘common knowledge’ in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based. *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697”
- “The examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge. See *Soli*, 317 F.2d at 946, 37 USPQ at 801; *Chevenard*, 139 F.2d at 713, 60 USPQ at 241.”
- “If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2).”

Here, there is no evidentiary support in the record for the “common knowledge” asserted for the following features recited in claims 74-76:

- “wherein individual LED/phosphor assemblies in said regular pattern array are selectively illuminable” (claim 74);
- “wherein LED/phosphor assemblies in said regular pattern array are controlled by a controller in response to user input” (claim 75);

- “wherein all LED/phosphor assemblies in said regular pattern array are arranged to be simultaneously illuminated” (claim 76).

In the absence of such evidentiary support in the record, it is requested that the rejection of claims 74-76, on grounds of “well known and conventional” function, be withdrawn.

Further, the statement (Office Action, p. 6) that the limitations of claims 74-76 are “considered a functional limitations [sic]” is not a basis for rejection, since functional language is fully acceptable in apparatus claims (see MPEP 2114, which expressly acknowledges that “features of an apparatus may be recited either structurally or functionally”).

Still further, in relation to the statement (p. 6, Office Action) that an apparatus must be distinguished from the prior art in terms of structure, it is pointed out that claims 74-76 are in fact structurally distinguished over the art – each of these claims depends from claim 73, which in turn depends from claim 70.

Accordingly, all of the limitations of claim 70 are present in claims 74-76 (see 37 CFR 1.75(c), which provides that “[c]laims in dependent form shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim”).

Therefore, each of claims 74-76 by virtue of its dependence under claim 70 specifies a liquid crystal display “comprising a back light structure including at least one LED/phosphor assembly in which the LED is energizable to emit radiation and the phosphor is arranged to be impinged by radiation from the LED so that the LED/phosphor assembly produces white light back light illumination for the liquid crystal display,” as recited in claim 70. It has already been established herein that such liquid crystal display has no derivative basis in Stevenson, and for such reason, claims 74-76 are correspondingly patentably differentiated over Stevenson.

It therefore is requested that the rejection of claims 74-76 be withdrawn.

Claim 51, depending from claim 70, has been rejected for the stated reason that “Shimizu teaches the LED/phosphor assembly of claim 70, and having a multiplicity of the LED/phosphor assembly [sic] would have been obvious to one of ordinary skill in the art, at the time of the

invention, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art” (Office Action, pp. 6-7).

Shimizu, however, has been disqualified from being prior art by the Baretz/Tischler 131 Declaration, and Stevenson has been shown to lack disclosure of, or derivative basis for, the liquid crystal display of claim 70. Claim 51, depending from claim 70, thus is likewise patentable over the art.

Withdrawal of the rejection of claim 51 is requested.

CONCLUSION

Based on the amendment of claim 70 herein, the submission of the accompanying Baretz/Tischler 131 Declaration, the Remarks presented in this Response, and the reasons of record, claims 31, 33-36, 44, 47-48, 51-52, 70-71 and 73-76 are patentably differentiated over the art, and in form and condition for allowance.

It is correspondingly requested that a Notice of Allowance be issued for this application.

Respectfully submitted,

/steven j. hultquist/

Steven J. Hultquist
Reg. No. 28,021
Attorney for Applicants

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INTELLECTUAL PROPERTY/
TECHNOLOGY LAW
Phone: (919) 419-9350
Fax: (919) 419-9354
Attorney File No.: 4241-198-CON

APPENDIX A

